MICRO FOCUS

GroupWise 18
Interoperability Guide

March 2018

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About This Guide

This *GroupWise 18 Interoperability Guide* helps you use GroupWise in the context of other software products.

For information about additional GroupWise-related software from GroupWise partners, see the Micro Focus Partner Product Guide (http://www.novell.com/partnerguide/).

The following resources provide additional information about using GroupWise 18:

- Micro Focus Support and Knowledgebase (http://www.novell.com/support/)

  To search the GroupWise documentation from the Micro Focus Support website, click **Advanced Search**, select **Documentation** in the **Search In** drop-down list, select **GroupWise** in the **Products** drop-down list, type the search string, then click **Search**.
- GroupWise Support Forums (https://forums.novell.com/forumdisplay.php/356-GroupWise)
- GroupWise Support Community (http://www.novell.com/support/kb/product.php?id=GroupWise)
- GroupWise Cool Solutions (https://www.novell.com/communities/coolsolutions/category/groupwise/)

Audience

This guide is intended for network administrators who install and administer GroupWise.

Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comment feature at the bottom of each page of the online documentation.

Additional Documentation

For additional GroupWise documentation, see the Micro Focus GroupWise 18 Documentation website (http://www.novell.com/documentation/groupwise18/).

Clustering

- Chapter 1, “Using Micro Focus Cluster Services with GroupWise 18,” on page 9
- Chapter 2, “Using Windows Server Failover Clustering with GroupWise 18,” on page 19

1 Using Micro Focus Cluster Services with GroupWise 18

- "Creating a New GroupWise System to Work with Micro Focus Cluster Services" on page 9
- "Upgrading a Clustered Linux GroupWise System to GroupWise 18" on page 13

Creating a New GroupWise System to Work with Micro Focus Cluster Services

For detailed instructions on configuring GroupWise to work with Micro Focus Cluster Services, see "Novell Cluster Services on Linux" in the *GroupWise 2012 Interoperability Guide*. The procedure for installing GroupWise 18 differs from the GroupWise 18 procedure in the following ways:

- "GroupWise 18 Installation Wizard" on page 9
- "GroupWise 18 Admin Console" on page 9
- "GroupWise 18 Admin Service" on page 10
- "GroupWise 18 Installation Console" on page 10
- "GroupWise 18 Load and Unload Scripts" on page 11
- "GroupWise 18 Cluster Test" on page 12

GroupWise 18 Installation Wizard

The GroupWise 18 Installation Wizard is completely different from the GroupWise 18 Installation program. Therefore, the specific installation instructions in "Setting Up a New GroupWise System in a Linux Cluster" in the *GroupWise 2012 Interoperability Guide* no longer apply. There is no longer a **Configure GroupWise for Clustering** option for taking care of certain clustering configuration tasks. Those tasks are taken care of in other ways in GroupWise 18.

1 Install the GroupWise Server component on each cluster node where a GroupWise agent will run for a domain or a post office.

   Follow the instructions in Step 1 through Step 9 in "Linux: Installing the GroupWise Server Software" in the *GroupWise 18 Installation Guide*.

   IMPORTANT: Install the GroupWise Server component on *all* cluster nodes before setting up any domains or post offices. Do not start the GroupWise Installation Console at the end of the installation process.

GroupWise 18 Admin Console

In GroupWise 18, the GroupWise Admin console replaces ConsoleOne as the GroupWise administration tool. The instructions that include ConsoleOne in the *GroupWise 2012 Interoperability Guide* can easily be adapted to apply to the GroupWise Admin console in GroupWise 18. For more information, see "Working with the GroupWise Administration Console" in *GroupWise 18 Installation Guide* and "GroupWise Administration Console" in the *GroupWise 18 Administration Guide*.

GroupWise 18 Admin Service

You must configure the GroupWise Admin Service to function in a cluster, so that it keeps track of which cluster resources are available to it at each point in time. Configuring the GroupWise Admin Service for clustering ensures that files associated with domains and post offices are created on cluster volumes, rather than on individual cluster nodes.

File	Standard Location	Clustered location
Domain SSL Certificate, MTA SSL Certificate, GWIA SSL Certificate	`/opt/novell/groupwise/certificates`	`/groupwise/certificates` (a peer to the domain folder)
Post Office SSL Certificate, POA SSL Certificate	`/opt/novell/groupwise/certificates`	`/groupwise/certificates` (a peer to the post office folder)
MTA Log Files	`/var/log/novell/groupwise/`*`domain`*`.mta`	`/groupwise/agents/logs` (a peer to the domain folder)
GWIA Log Files	`/var/log/novell/groupwise/gwia.`*`domain`*	`/groupwise/agents/logs` (a peer to the domain folder)
POA Log Files	`/var/log/novell/groupwise/`*`post_office`*`.poa`	`/groupwise/agents/logs` (a peer to the post office folder)

On each cluster node:

1 Run the following command to enable the GroupWise Admin Service to run in a clustering environment:

```
gwadminutil config -cluster enable
```

You should receive the following response:

```
Cluster: enabled
Default Port: 9710
```

2 Use the following command to restart the GroupWise Admin Service.

```
rcgrpwise restart gwadminservice
```

Your GroupWise system is now ready to function in a cluster.

GroupWise 18 Installation Console

In the Installation console, when you are creating domains and post offices in a cluster, a few fields require cluster-specific information.

- Domain Fields
- Post Office Fields

Domain Fields

When you follow the instructions in "Creating the Primary Domain" in the *GroupWise 18 Installation Guide*, pay special attention to the following fields:

- In the **Host** field, specify the secondary IP address of the shared resource where you want to create the domain.
- In the **Domain Folder** field, specify a folder on the shared resource where you want to create the domain.

Post Office Fields

When you follow the instructions in Step 2 through Step 8 in "Adding a Post Office" in the *GroupWise 18 Installation Guide, pay special attention to the following fields:*

- In the **Owning Domain Host** field, specify the secondary IP address of the shared resource where the owning domain is located.
- In the **Owning Domain Admin Port** field, specify the port on the shared resource for the domain.
- In the **Host** field, specify the secondary IP address of the shared resource where you want to create the post office.
- In the **Post Office Folder** field, specify a folder on the shared resource where you want to create the post office.

GroupWise 18 Load and Unload Scripts

The sample load and unload scripts that are provided in the following sections of "Novell Cluster Services on Linux" in the *GroupWise 2012 Interoperability Guide* should not be used with GroupWise 18:

- "Configuring GroupWise Cluster Resources to Load and Unload the Linux Agents"
- "Configuring the Linux GWIA Cluster Resource to Load and Unload the GWIA and Its MTA"

Use the following scripts instead:

- Sample Cluster Load Script
- Sample Cluster Unload Script

Sample Cluster Load Script

This sample cluster load script performs the following actions:

- Establishes what to do for certain error conditions.
- Creates the GroupWise agent services (if they do not already exist).
- Starts the GroupWise Admin Service listeners with clustering enabled for the MTA and POA.
- Starts the POA, MTA, and GWIA (in that order if all are present)

```
#!/bin/bash
./opt/novell/ncs/lib/ncsfuncs
exit_on_error nss /poolact=DOM
exit_on_error ncpcon mount DOM=254
exit_on_error add_secondary_ipaddress 151.155.136.248
exit_on_error ncpcon bind --ncpservername=DOM --ipaddress=151.155.136.248
exit_on_error novcifs --add '--vserver=".cn=DOM.ou=servers.o=novell.t=GW14-TREE."'
                      --ip-addr=151.155.136.248
```

```
# Start gwadmin service
exit_on_error /etc/init.d/grpwise start gwadminservice
#create agent services
exit_on_error /opt/novell/groupwise/admin/gwadminutil services
                                              -i /media/nss/DOM/utah
exit_on_error /opt/novell/groupwise/admin/gwadminutil services
                                             -i /media/nss/DOM/utah/wpgate/gwia
exit_on_error /opt/novell/groupwise/admin/gwadminutil services
                                             -i /media/nss/DOM/provo

#start admin service listeners
exit_on_error /opt/novell/groupwise/admin/gwadmin-ipc start utah cluster
exit_on_error /opt/novell/groupwise/admin/gwadmin-ipc start provo.utah cluster

#start GroupWise agents
exit_on_error /etc/init.d/grpwise start utah
exit_on_error /etc/init.d/grpwise start gwia.utah
exit_on_error /etc/init.d/grpwise start provo.utah
exit 0
```

Sample Cluster Unload Script

This sample cluster unload script performs the following actions:

- Stops the GroupWise Admin Service listeners for the MTA and POA
- Stops the MTA, GWIA, and POA (in that order if all are present)
- Lists error conditions that can be ignored

```
#!/bin/bash
. /opt/novell/ncs/lib/ncsfuncs
# Stop admin service listeners
ignore_error /opt/novell/groupwise/admin/gwadmin-ipc stop utah
ignore_error /opt/novell/groupwise/admin/gwadmin-ipc stop provo.utah

# Stop GroupWise agents
ignore_error /etc/init.d/grpwise stop utah
ignore_error /etc/init.d/grpwise stop gwia.utah
ignore_error /etc/init.d/grpwise stop provo.utah

ignore_error novcifs
             --remove '--vserver=".cn=DOM.ou=servers.o=novell.t=GW14-TREE."'
             --ip-addr=151.155.136.248
ignore_error ncpcon unbind --ncpservername=DOM --ipaddress=151.155.136.248
ignore_error del_secondary_ipaddress 151.155.136.248
ignore_error nss /pooldeact=DOM
exit 0
```

GroupWise 18 Cluster Test

Follow the instructions in “Testing Your Clustered GroupWise System on Linux” to verify that the GroupWise Admin console keeps track of the cluster resources that are currently available to it.

Upgrading a Clustered Linux GroupWise System to GroupWise 18

- "Installing the GroupWise 18 Software" on page 13
- "Configuring the GroupWise Admin Service to Function in a Cluster" on page 14
- "Upgrading Domains and Post Offices" on page 14
- "Finishing the GroupWise Software Upgrade" on page 15
- "Providing New Load and Unload Scripts" on page 15
- "Testing the Upgraded Cluster" on page 17

Installing the GroupWise 18 Software

As with any upgrade, you must upgrade the primary domain first.

1 Stop all GroupWise agents that are running on the node that you want to upgrade first.

2 Install the GroupWise Server component on the first node.

  Follow the instructions in Step 1 through Step 9 in "Linux: Installing the GroupWise Server Software" in the *GroupWise 18 Installation Guide*.

  IMPORTANT: Do not start the GroupWise Admin console after installing the GroupWise software.

  ---

3 Continue with Configuring the GroupWise Admin Service to Function in a Cluster.

Configuring the GroupWise Admin Service to Function in a Cluster

You must configure the GroupWise Admin Service to function in a cluster, so that it keeps track of which cluster resources are available to it at each point in time. Configuring the GroupWise Admin Service for clustering ensures that files associated with domains and post offices are created on cluster volumes, rather than on individual cluster nodes.

File	Standard Location	Clustered location
Domain SSL Certificate, MTA SSL Certificate, GWIA SSL Certificate	`/opt/novell/groupwise/certificates`	`/groupwise/certificates` (a peer to the domain folder)
Post Office SSL Certificate, POA SSL Certificate	`/opt/novell/groupwise/certificates`	`/groupwise/certificates` (a peer to the post office folder)
MTA Log Files	`/var/log/novell/groupwise/`*domain*`.mta`	`/groupwise/agents/logs` (a peer to the domain folder)
GWIA Log Files	`/var/log/novell/groupwise/gwia.`*domain*	`/groupwise/agents/logs` (a peer to the domain folder)
POA Log Files	`/var/log/novell/groupwise/`*post_office*`.poa`	`/groupwise/agents/logs` (a peer to the post office folder)

1 Run the following command to enable the GroupWise Admin Service to run in a clustering environment:

```
gwadminutil config -cluster enable
```

You should receive the following response:

```
Cluster: enabled
Default Port: 9710
```

2 Use the following command to restart the GroupWise Admin Service.

```
rcgrpwise restart gwadminservice
```

Your GroupWise system is now ready to function in a cluster.

3 For convenience, configure the GroupWise Installation console to use an authentication mode of a user name and password, rather than the default token-based authentication mode:

```
gwadminutil installcfg -m user -u user_name -p password
```

4 Continue with Upgrading Domains and Post Offices.

Upgrading Domains and Post Offices

For background information about upgrading your GroupWise system, see "GroupWise System Upgrade" in the *GroupWise 18 Installation Guide*.

1 In a web browser, start the GroupWise Installation console:

```
https://domain_server_secondary_ip_address:9710/gwadmin-console/install
```

2 Provide the user name as password that you established in Step 3 in "Configuring the GroupWise Admin Service to Function in a Cluster" on page 14.

3 In the GroupWise Installation console, click **Upgrade an Existing Domain or Post Office GroupWise 18**.

The Installation console provides a list of agents on the current node. The list is built from the `gwha.conf` file.

4 (Conditional) If there are any domains or post offices that are not currently online to this node, select them, then click **Remove** to remove them from the list.

5 For each domain and post office, verify that the IP address in the list is the secondary IP address of the cluster resource.

6 For each domain and post office, verify that there are no port conflicts for the Admin port.

7 (Conditional) If you need to change the IP address or Admin port for a domain or post office, click the name of the domain or post office, update the information, then click **OK**.

8 Click **Next** to continue with the upgrade.

9 On the Credentials page:

9a (Conditional) If the primary domain is being upgraded, specify the user name for the GroupWise Super Admin, and type the password twice for confirmation.

or

Specify the IP address, Admin port, and Admin credentials of the owning domain.

10 Click **Next** to display the Summary page.

11 Review the summary, then click **Finish**.

12 Continue with Finishing the GroupWise Software Upgrade.

Finishing the GroupWise Software Upgrade

1 On each cluster node, repeat the steps in the following sections:

- "Installing the GroupWise 18 Software" on page 13
- "Configuring the GroupWise Admin Service to Function in a Cluster" on page 14
- "Upgrading Domains and Post Offices" on page 14

Remember that you cannot upgrade a post office until its owning domain as been upgraded.

2 Continue with Providing New Load and Unload Scripts.

Providing New Load and Unload Scripts

1 In iManager, replace the existing load script for each cluster resource with a new load script that is similar to the following example:

```
#!/bin/bash
./opt/novell/ncs/lib/ncsfuncs
exit_on_error nss /poolact=DOM
exit_on_error ncpcon mount DOM=254
exit_on_error add_secondary_ipaddress 151.155.136.248
exit_on_error ncpcon bind --ncpservername=DOM --ipaddress=151.155.136.248
exit_on_error novcifs --add '--vserver=".cn=DOM.ou=servers.o=novell.t=GW14-
TREE."'
                      --ip-addr=151.155.136.248
```

```
# Start gwadmin service
exit_on_error /etc/init.d/grpwise start gwadminservice
#create agent services
exit_on_error /opt/novell/groupwise/admin/gwadminutil services
                                                -i /media/nss/DOM/utah
exit_on_error /opt/novell/groupwise/admin/gwadminutil services
                                               -i /media/nss/DOM/utah/wpgate/
gwia
exit_on_error /opt/novell/groupwise/admin/gwadminutil services
                                               -i /media/nss/DOM/provo

#start admin service listeners
exit_on_error /opt/novell/groupwise/admin/gwadmin-ipc start utah cluster
exit_on_error /opt/novell/groupwise/admin/gwadmin-ipc start provo.utah cluster

#start GroupWise agents
exit_on_error /etc/init.d/grpwise start utah
exit_on_error /etc/init.d/grpwise start gwia.utah
exit_on_error /etc/init.d/grpwise start provo.utah
exit 0
```

This sample cluster load script performs the following actions:

- Establishes what to do for certain error conditions.
- Creates the GroupWise agent services (if they do not already exist).
- Starts the GroupWise Admin Service listeners with clustering enabled for the MTA and POA.
- Starts the POA, MTA, and GWIA (in that order if all are present)

2 Replace the existing unload script for each cluster resource with a new unload script that is similar to the following example:

```
#!/bin/bash
. /opt/novell/ncs/lib/ncsfuncs
# Stop admin service listeners
ignore_error /opt/novell/groupwise/admin/gwadmin-ipc stop utah
ignore_error /opt/novell/groupwise/admin/gwadmin-ipc stop provo.utah

# Stop GroupWise agents
ignore_error /etc/init.d/grpwise stop utah
ignore_error /etc/init.d/grpwise stop gwia.utah
ignore_error /etc/init.d/grpwise stop provo.utah

ignore_error novcifs
             --remove '--vserver=".cn=DOM.ou=servers.o=novell.t=GW14-TREE."'
             --ip-addr=151.155.136.248
ignore_error ncpcon unbind --ncpservername=DOM --ipaddress=151.155.136.248
ignore_error del_secondary_ipaddress 151.155.136.248
ignore_error nss /pooldeact=DOM
exit 0
```

This sample cluster unload script performs the following actions:

- Stops the GroupWise Admin Service listeners for the MTA and POA
- Stops the MTA, GWIA, and POA (in that order if all are present)
- Lists error conditions that can be ignored

NOTE: The `pkill` command used in earlier versions of the GroupWise unload script is no longer needed. In GroupWise 18, the `grpwise` script terminates GroupWise agent processes according to the `wait` setting specified in the `gwha.conf` file. The default is 60 seconds. If that amount of time is not sufficient to ensure a clean shutdown of the agents in your GroupWise system, increase the `wait` setting as needed.

3 Continue with Testing the Upgraded Cluster.

Testing the Upgraded Cluster

1 Follow the instructions in "Testing Your Clustered GroupWise System on Linux" to verify that the GroupWise Admin console keeps track of the cluster resources that are currently available to it.

2 Using Windows Server Failover Clustering with GroupWise 18

Windows Server 2012 Failover Clustering and Windows Server 2008 Failover Clustering are very similar in regards to how GroupWise 18 interacts with them. In Windows Server 2012 Failover Clustering, the term “Cluster Role” replaces the term “Cluster Resource” as used in Windows Server 2008 Failover Clustering. The example in this section uses Windows Server 2012 functionality and terminology.

- “Creating a New GroupWise 18 System in a Windows Failover Cluster” on page 19
- “Upgrading a Clustered Windows GroupWise System to GroupWise 18” on page 27

Creating a New GroupWise 18 System in a Windows Failover Cluster

The following sections assume a working knowledge of Windows Server Failover Clustering.

- “Preparing to Install GroupWise in the Cluster” on page 19
- “Installing the GroupWise Software” on page 20
- “Configuring the GroupWise Admin Service for Clustering” on page 21
- “Creating the Primary Domain” on page 21
- “Creating a Post Office” on page 22
- “Creating a Script to Start and Stop the GroupWise Agents” on page 24
- “Adding the Script to the Cluster Role” on page 24
- “Testing the Cluster Role” on page 26
- “Clustering the DVA” on page 26

Preparing to Install GroupWise in the Cluster

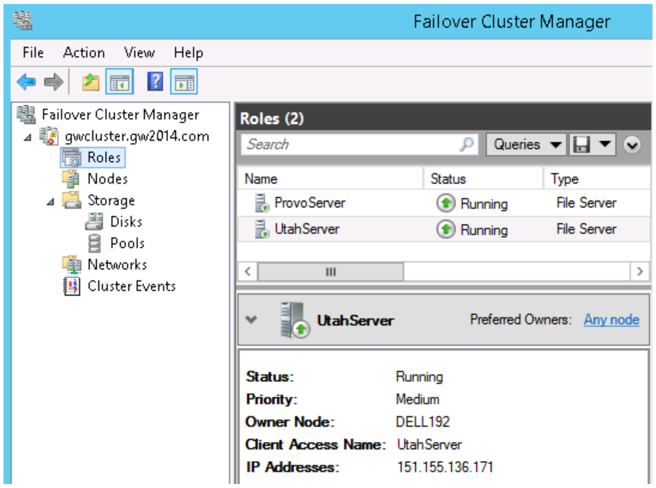
1. Define at least one Cluster Role.

   For a very simple GroupWise system with a primary domain and one post office, you could handle the domain and the post office as a single Cluster Role. For a typical GroupWise system with multiple domains and post offices, you might to have a Cluster Role for each domain and post office.

2. Configure each Cluster Role with the type of File Server.

3 Configure each File Server Cluster Role with a shared cluster disk and an IP address.

The following example shows two Cluster Roles, ProvoServer and UtahServer.



4 Continue with Installing the GroupWise Software.

Installing the GroupWise Software

1 Install the GroupWise Server component on each cluster node where a GroupWise agent will run for a domain or a post office.

Follow the instructions in Step 1 through Step 9 in “Windows: Installing the GroupWise Server Software” in the *GroupWise 18 Installation Guide*.

IMPORTANT: Install the GroupWise Server component on *all* cluster nodes before setting up any domains or post offices.

---

2 Continue with Configuring the GroupWise Admin Service for Clustering.

Configuring the GroupWise Admin Service for Clustering

Configuring the GroupWise Admin Service for clustering ensures that files associated with domains and post offices are created on cluster volumes, rather than on individual cluster nodes.

File	Standard Location	Clustered location
Domain SSL Certificate, MTA SSL Certificate, GWIA SSL Certificate	`c:\Program Files\Novell\GroupWise Server\certificates`	`\groupwise\certificates` (a peer to the domain folder)
Post Office SSL Certificate, POA SSL Certificate	`c:\Program Files\Novell\GroupWise Server\certificates`	`\groupwise\certificates` (a peer to the post office folder)
MTA Log Files	`\`*domain_folder*`\mslocal`	`\groupwise\agents\logs` (a peer to the domain folder)
GWIA Log Files	`\`*domain_folder*`\wpgate\000.prc`	`\groupwise\agents\logs` (a peer to the domain folder)
POA Log Files	`\`*post_office_folder*`\wpcsout\ofs`	`\groupwise\agents\logs` (a peer to the post office folder)

1 Run the following command to enable the GroupWise Admin Service to run in a clustering environment:

```
gwadminutil config -cluster enable
```

You should receive the following response:

```
Cluster: enabled
Default Port: 9710
```

2 Restart the GroupWise Admin Service.

Use the Windows Services administrative tool.

or

Use the following commands at the Windows command prompt:

```
sc stop gwadmin
sc start gwadmin
```

3 Continue with Creating the Primary Domain.

Creating the Primary Domain

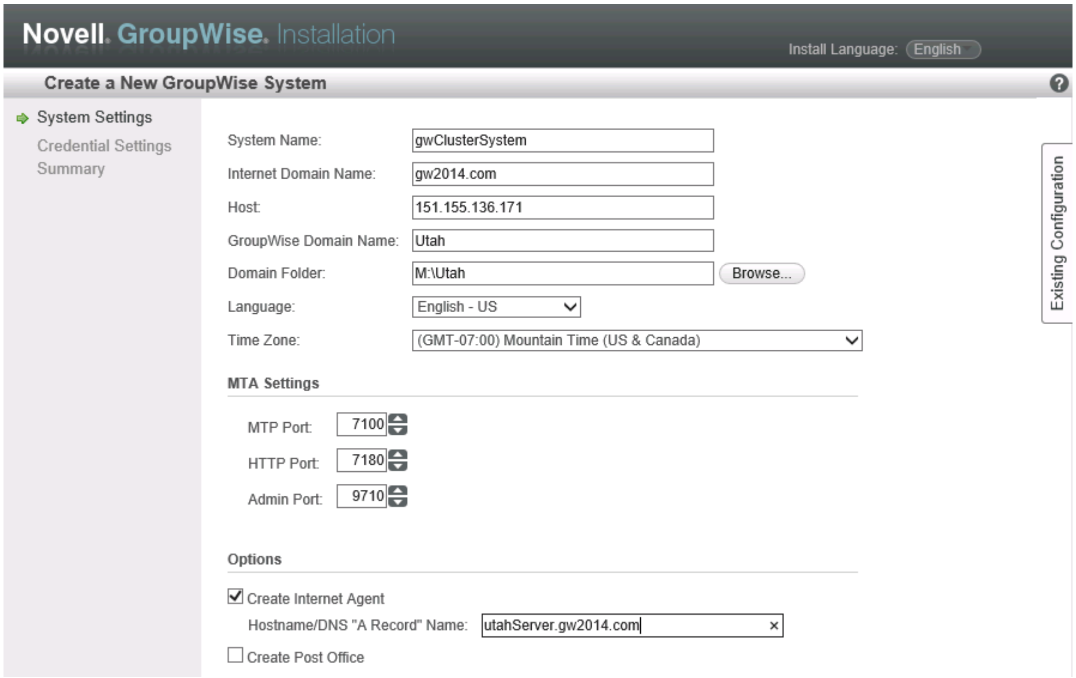
1 Ensure that the primary domain Cluster Role is online on the cluster node where you want to create the primary domain.

2 Use the **GroupWise Install** icon on the Windows desktop to access the GroupWise Installation console.

3 (Conditional) If you receive a certificate error, continue past it.

4 Follow the instructions in "Creating the Primary Domain" in the *GroupWise 18 Installation Guide*.

Pay special attention to the **Host** and **Domain Folder** fields on the System Settings page.



- In the **Host** field, specify the IP address of the domain Cluster Role.
- In the **Domain Folder** field, specify a folder on the domain Cluster Role volume.

  The clustering example used in this section sets up a GWIA in the primary domain but does not create any post offices on the primary domain server. The post office will be created later on a different Cluster Role.

5 Continue following the standard instructions to finish creating the primary domain.

NOTE: After you create the primary domain on its Cluster Role, the GroupWise Install and GroupWise Administration desktop icons no longer work. The Admin Service is now listening on the IP address of the primary domain Cluster Role, not the IP address of the physical node.

6 (Optional) Create new desktop shortcuts for the Installation console and the Administration console that use the proper IP address.

7 Continue with Creating a Post Office.

Creating a Post Office

Although you can create a post office on the same Cluster Role with a domain, it is not typical to do so. In this example, the post office is created on a separate Cluster Role.

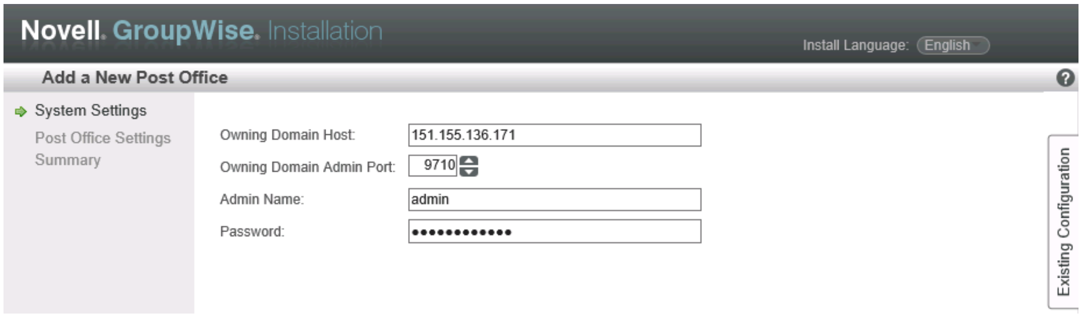
1 Online the post office Cluster Role to a cluster node.

2 Use the **GroupWise Install** icon on the Windows desktop to access the GroupWise Installation console.

3 Follow the instructions in Step 2 through Step 8 in "Adding a Post Office" in the *GroupWise 18 Installation Guide*.

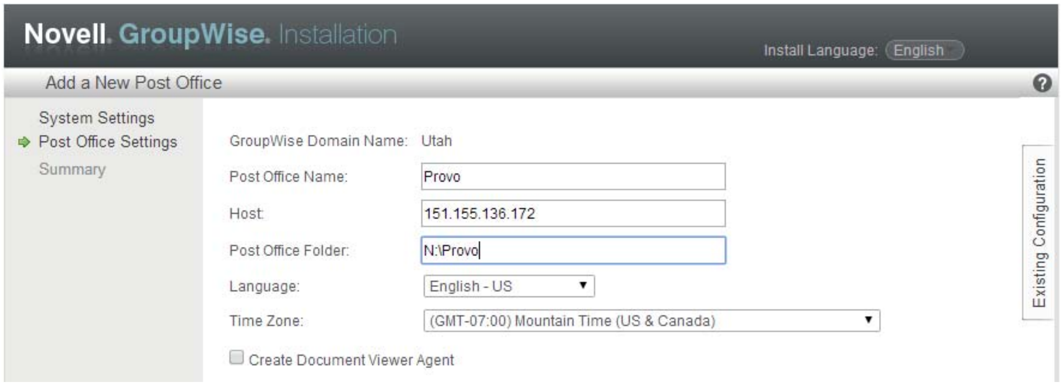
As with the domain creation process, pay special attention to specific fields.

3a On the System Settings page:



- In the **Owning Domain Host** field, specify the IP address of the primary domain Cluster Role that you set up in "Creating the Primary Domain" on page 21.
- In the **Owning Domain Admin Port** field, specify port on the primary domain Cluster Role.

3b On the Post Office Settings page:



- In the **Host** field, specify the IP address of the post office Cluster Role.
- In the **Post Office Folder** field, specify a folder on the post office Cluster Role volume.

  The clustering example used in this section does not set up a DVA with the post office. For DVA clustering recommendations, see "Clustering the DVA" on page 26.

4 Continue following the standard instructions to finish creating the post office.

NOTE: As an alternative to creating the post office in the GroupWise Installation console, you can create the post office in the GroupWise Admin console. Online the post office Cluster Role to the same node where the owning domain Cluster Role is running. Then follow the instructions in "Creating a New Post Office on an Existing Domain or Post Office Server" in the *GroupWise 18 Installation Guide*.

Creating a Script to Start and Stop the GroupWise Agents

When a domain or post office Cluster Role is started, stopped, or moved to a new cluster node, the accompanying GroupWise agents must also be started and stopped. The GroupWise Admin Service also needs to keep track of when domains and post office are added or removed from its cluster node. This is accomplished by adding a Windows cluster Generic Script resource to the domain or post office Cluster Role.

The Generic Script performs the following actions:

- Creates a Windows service for each GroupWise agent if the service does not already exist.
- Starts the GroupWise Admin Service for the domain or post office Cluster Role.
- Starts the MTA, and optionally the GWIA, for a domain Cluster Role.
- Starts the POA for a post office Cluster Role.

The Generic Script must be a Visual Basic script. A template is provided in the following location:

```
c:\Program Files\Novell\GroupWise Server\
                        agents\data\cluster\groupwise_cluster_template.vbs
```

The script file provides background information about how to edit the script.

1. Create a folder for the script on each cluster node, such as `c:\gwcluster`.
2. Copy the template script into the `gwcluster` folder on each cluster node.
3. Edit the template file for a specific Cluster Role.

   For a domain Cluster Role, the script would look similar to the following example, which enables the MTA and the GWIA for the Utah domain:

   ```
   gwAgents.Add "Utah MTA", "M:\Utah"
   gwAgents.Add "Utah GWIA", "M:\Utah\wpgate\gwia"
   ```

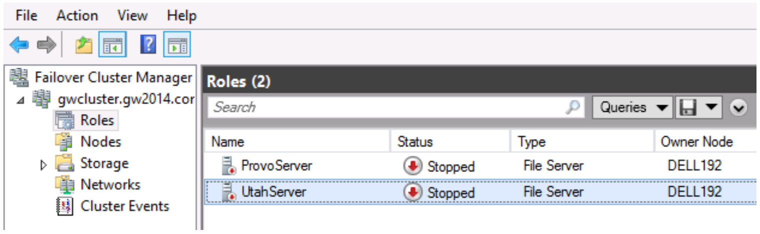
   For a post office Cluster Role, the script would look similar to the following example, which enables the POA for the Provo post office:

   ```
   gwAgents.Add "Provo POA", "M:\Provo"
   ```

4. Save the edited template file with a descriptive name that associates it with its Cluster Role.
5. Copy the customized script to each cluster node, ensuring that it is in the same location on all cluster nodes.
6. Continue with Adding the Script to the Cluster Role.

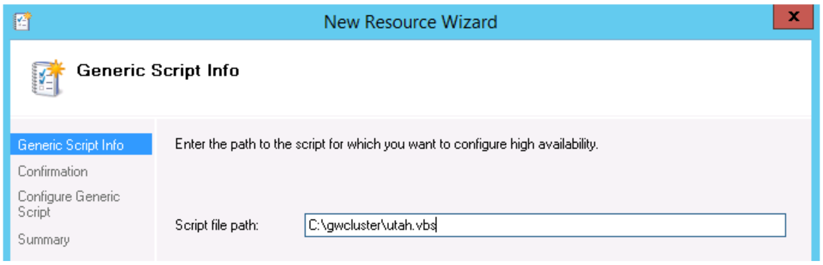
Adding the Script to the Cluster Role

1. In the Failover Cluster Manager, stop or offline the Cluster Role.
2. Highlight the Cluster Role.



3 On the **Actions** menu in the right column, click **Add Resource > Generic Script**.

4 Select **Generic Script** as the resource type.



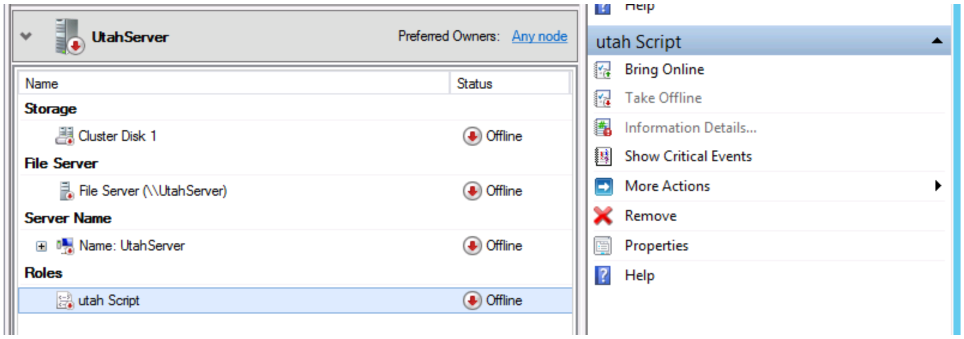
5 Specify the full path to the script.

6 Click **Next**, then click **Finish**.

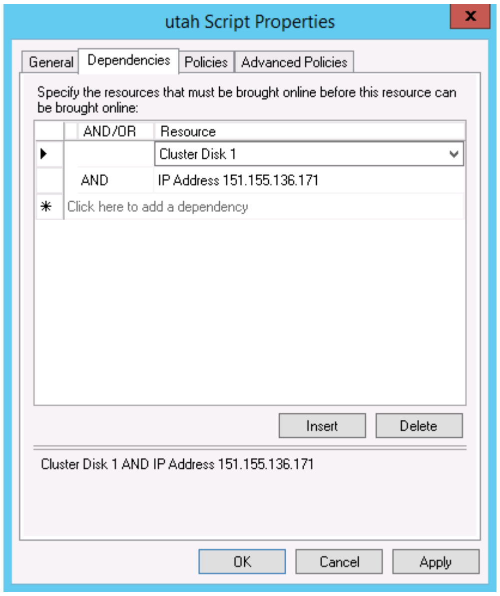
IMPORTANT: If there are any errors in the script, or if the script is not available on all of the cluster nodes, the addition of the Generic Script resource fails.

---

7 Edit the properties of the script to add dependencies, so that the file system and IP address are enabled on the Cluster Role before the script is run.



7a Highlight the Generic Script resource, then click **Properties** on the Script menu on the right.



7b Click the **Dependencies** tab.

7c Click **Click here to add a dependency**, then select the Cluster Disk as the first dependency.

7d Click **Click here to add a dependency** again, then add the IP address.

7e Click **OK** to save your changes.

8 Continue with Testing the Cluster Role.

Testing the Cluster Role

1. Bring the Cluster Role online.
2. Move the Cluster Role to a different node.

Clustering the DVA

Complete instructions for clustering the DVA are beyond the scope of this example. The following suggestions should help you cluster the DVA:

- Do not install the DVA as part of installing a post office. Instead, install it independently. Use the following command on the cluster disk where you want the DVA to run:

  ```
  gwadminutil services -i -dva
  ```

  For more instructions, see the following sections in the *GroupWise 18 Installation Guide*:

  - "Windows: Installing and Starting a New DVA"
  - "Setting Up the DVA"

- Create a script and a Generic Script resource to control the DVA. The line for the DVA would look similar to the following example:

  ```
  gwAgents.Add "GWDVA", "M:\Provo"
  ```

  For instruction, see:

  - "Creating a Script to Start and Stop the GroupWise Agents" on page 24
  - "Adding the Script to the Cluster Role" on page 24

- Configure the DVA to function in the cluster.

  This requires editing the DVA startup file. For instructions, see "Configuring DVA Log Settings" in the *GroupWise 18 Administration Guide*.

  Two aspects of the DVA must to customized:

  - Configure the DVA with the IP address of the Cluster Role.
  - Configure the DVA to create its log files in the following folder:

    ```
    \groupwise\agents\logs
    ```

    If you are setting up the DVA as part a post office Cluster Role, this folder has already been created when you configured the GroupWise Admin Service to run for the clustered post office. If not, you must manually create this folder. In either case, you must configure the DVA to have its log files created in this location.

Upgrading a Clustered Windows GroupWise System to GroupWise 18

If your existing GroupWise system is in a cluster, you must change the way it is configured in the cluster to enable the GroupWise 18 domains, post offices, and agents to function in the cluster.

1. Stop the GroupWise agents for the domain or post office.
2. Remove the cluster Resource Group for the domain or post office.
3. Upgrade each domain or post office.

   For instructions, see“GroupWise System Upgrade” in the *GroupWise 18 Installation Guide*
4. Create a Cluster Role for each domain or post office.

   or

   Create a Cluster Role for a domain and one or more post offices, as required by the existing architecture of your Windows Failover cluster.

   For instructions, see “Preparing to Install GroupWise in the Cluster” on page 19.
5. Create a script to control the agents in the Cluster Role.

   For instructions, see:
   - “Creating a Script to Start and Stop the GroupWise Agents” on page 24
   - “Adding the Script to the Cluster Role” on page 24
6. Test the new Cluster Role.

   For instructions, see “Testing the Cluster Role” on page 26.
7. (Optional) Cluster the DVAs in your GroupWise system.

   For instructions, see “Clustering the DVA” on page 26.

3 Messenger

To show Messenger presence in GroupWise, one of the following must match between GroupWise and Messenger:

- GroupWise DN matches Messenger DN.
- GroupWise preferred email address matches the mail attribute stored in Messenger. You can store the mail attribute in Messenger by doing an LDAP sync.
- GroupWise preferred email address matches the userid@defaulthostid in Messenger that is constructed from the user settings and their assigned policy.

NOTE: Only the users in your contact list show their presence in GroupWise. If you don't see a user's presence in GroupWise, you must add them to your Messenger contact list and then restart the GroupWise client so it picks up the new Messenger contact.

---

4 Micro Focus Vibe

Before installing Micro Focus Vibe, you should thoroughly review the documentation provided at the Micro Focus Vibe documentation website (http://www.novell.com/documentation/vibe34/). These guides provide detailed product installation and configuration instructions, but they do not include specific instructions for integrating Micro Focus Vibe with GroupWise. This section of the *GroupWise 18 Interoperability Guide* supplies these product-specific instructions.

- "Configuring GroupWise for Use with Micro Focus Vibe" on page 31
- "Accessing Your Vibe Site from the GroupWise Client" on page 33
- "Streamlining Authentication to Vibe" on page 33

Configuring GroupWise for Use with Micro Focus Vibe

When you install Micro Focus Vibe with GroupWise, some configuration steps are required to integrate the applications.

- "Understanding How Micro Focus Vibe Interacts with an LDAP Directory and GroupWise" on page 31
- "Authenticating through the LDAP Directory" on page 32
- "Using GroupWise as the Vibe Email System" on page 32
- "Enabling GroupWise/Vibe Integration for GroupWise Client Users" on page 32

Understanding How Micro Focus Vibe Interacts with an LDAP Directory and GroupWise

When you install Micro Focus Vibe in an environment where GroupWise is already set up, the products interact in the following ways:

- Vibe can use an LDAP directory (Micro Focus eDirectory or Microsoft Active Directory) to authenticate Vibe users. This means that you do not need to create Vibe users manually. Vibe can create its user accounts based on the users that already exist in the LDAP directory.
- Vibe can use GroupWise as its integrated email system. This means that email messages sent from the Vibe site are delivered to GroupWise mailboxes. It also means that GroupWise users can post items to Vibe folders by sending email messages to Vibe folders.
- Vibe information can be displayed in the GroupWise client. Starting in GroupWise 8.0.2, you can drag and drop GroupWise items into Vibe folders in the GroupWise Folder List to post items to the corresponding folders in your Vibe site. You can also use the GroupWise Find feature to search your Vibe site.

Authenticating through the LDAP Directory

For instructions, see the following sections of the *Micro Focus Vibe 4.0.4 Installation Guide*:

- "Gathering Directory Services Information"
- "Adding Users to Your Vibe Site"

Using GroupWise as the Vibe Email System

For setup instructions, see the following sections of the *Micro Focus Vibe 4.0.4 Installation Guide*:

- "Gathering Outbound Email Information"
- "Enabling Inbound Email"

See also the following section of the *Micro Focus Vibe 4.0.4 Administration Guide*:

- "Configuring Email Integration"

For basic email usage instructions, see the following sections of the *Micro Focus Vibe 4.0.4 User Guide*:

- "Sending Email to Team Members and Announcing the Workspace after Its Creation"
- "Subscribing to Email Notifications from a Folder", "Setting Up a Folder to Receive Entries Via Email" and "Adding Entries to a Folder Via Email"
- "Sending Email from within Vibe"

See also the following sections of the *Micro Focus Vibe 4.0.4 Advanced User Guide*:

- "Enabling Folders to Receive Entries through Email" and "Configuring Folders to Send Email Notifications to Other Users"
- "Sending Email Notifications"
- "Emailing Files and Attachments to the Vibe Site When You Are Over Your Quota"

Enabling GroupWise/Vibe Integration for GroupWise Client Users

Before you can integrate GroupWise and Vibe, your Vibe site must be set up, as described in the *Micro Focus Vibe 4.0.4 Installation Guide*.

1. In the GroupWise Admin console, click **Domains**, **Post Offices**, or **Users**, then click the object where you want to make Vibe available to GroupWise client users.
2. Click **Client Options > Integrations > Micro Focus Vibe**.
3. Select **Enable Micro Focus Vibe**.
4. Provide the Vibe URL:

   4a Use the following format:

   ```
   https://vibe_server/ssf/ws/TeamingServiceV1
   ```

   4b (Conditional) If you want to use HTTP instead of HTTPS, include it in the **Micro Focus Vibe URL** field, for example:

   ```
   http://vibe.yourcompanyname.com
   ```

4c (Conditional) If Vibe is not configured with the default HTTPS port, include the port number after the hostname, for example:

```
vibe.yourcompanyname.com:444
```

4d (Conditional) If Vibe is not installed in the default location, include the path to `TeamingServiceV1`, for example:

```
vibe.yourcompanyname.com/Web/Vibe/TeamingServiceV1
```

5 Click **OK**.

IMPORTANT: In order for GroupWise users to take advantage of GroupWise/Vibe integration, they must provide their GroupWise email address in their Vibe profile.

Accessing Your Vibe Site from the GroupWise Client

Before you can access the Vibe site from the GroupWise client, you must add your GroupWise email address to your Vibe profile, as described in "Modifying Your Profile" in the *Micro Focus Vibe 4.0.4 User Guide*.

The *GroupWise and Vibe Quick Start* describes the Vibe functionality that becomes available in the GroupWise client as a result of the GroupWise/Vibe integration.

Streamlining Authentication to Vibe

You can implement single sign-on for use with Micro Focus Vibe, so that users do not need to log in separately to GroupWise and Vibe. See the following sections in "Planning an Advanced Vibe Installation" in the *Micro Focus Vibe 4.0.4 Installation Guide*:

- "Configuring Single Sign-On with Novell Access Manager"
- "Configuring Single Sign-On with Internet Information Services for Windows"

5 Micro Focus Filr

Using Micro Focus Filr with your GroupWise system allows you to store, search, and share attachments in Filr. Attachments sent this way take no space in the GroupWise mailbox and are automatically shared in Filr. This gives you better control over you attachments and the size of your mailboxes.

IMPORTANT: Attachments sent as Filr references are considered an external resource and are not part of the message. If you enable Filr, GroupWise attachments stored in Filr are not archived with Micro Focus Retain.

Enabling GroupWise for Use with Micro Focus Filr

To enable the Filr integration:

- ❐ In the GroupWise Admin console, select the **Domain**, **Post Office**, or user where you want the Filr integration enabled.
- ❐ Go to **Client Options > Integrations > Micro Focus Filr** and select **Enable Micro Focus Filr**.
- ❐ Enter the URL for your Filr server in the following format:

  `https://`*`server_ip_or_dns`*`:`*`port`*

- ❐ (Optional) Select **Force storage of attachments in Micro Focus Filr** and choose **Store all attachments** or **Store attachments larger than *xx* MB**.

Using Filr to Manage Attachments

Once Filr is enabled in your system, you can use it to store attachments. Attachments send through Filr are stored in a **GW Attachments** folder. When you send an attachment using Filr, the items are automatically shared with the recipients. Use the following methods to manage your GroupWise attachments in Filr:

- When adding attachments to an item, select **Filr reference** in the bottom left corner. You can then select a file from Filr to attach to the item.
- When adding an attachment to an item, you can right click on the attachment and select **Upload to Micro Focus Filr** to automatically upload it to Filr.
- If your administrator has forced attachments to be sent through Filr, using a size limit or just having all attachments sent through Filr, you receive a warning option upon sending an attachment that is not in Filr and the attachment is automatically uploaded to Filr when the item is sent.
- Using Find, you can select Micro Focus Filr and the Find searches through your Filr files as well as your GroupWise items.
- You can save received attachments to Filr in the **File > Save** menu.
- To open a Filr reference in an item, right click on the reference and select **View in Micro Focus Filr**.

6 De-Mail

De-Mail is an email security system available in Germany. It allows you to securely send confidential items electronically.

Enabling GroupWise for Use with De-Mail

To enable the De-Mail integration:

- ❐ In the GroupWise Admin console, select the **Domain**, **Post Office**, or user where you want the De-Mail integration enabled.
- ❐ Go to **Client Options > Integrations > DE Mail** and select **Enable DE Mail** integration.
- ❐ Select if you want to **Use Mentana filtering** or **Use TSystem filtering**.

With this enabled, users who send items to a De-Mail address are able to select additional De-Mail security options in the item header previous to sending the item.

7 GroupWise Identity Manager Driver for NetIQ Identity Manager

The GroupWise Identity Manager driver for use with NetIQ Identity Manager provides data integration between users in NetIQ eDirectory and GroupWise accounts in your GroupWise system. For example, the driver can create email accounts automatically when employees are hired. The driver can also disable an email account when a user is no longer active. This configurable solution gives you the ability to increase productivity and streamline business processes by integrating GroupWise and eDirectory.

This guide provides information about certain administrative actions in the GroupWise Admin console that require you to stop the GroupWise Identity Manager driver or disable a user's association:

- "Identity Manager Warnings in the GroupWise Admin Console" on page 39

For additional information, see:

- NetIQ Identity Manager (http://www.novell.com/documentation/idm402/)
- Identity Manager Drivers (http://www.netiq.com/documentation/idm402drivers/)

Identity Manager Warnings in the GroupWise Admin Console

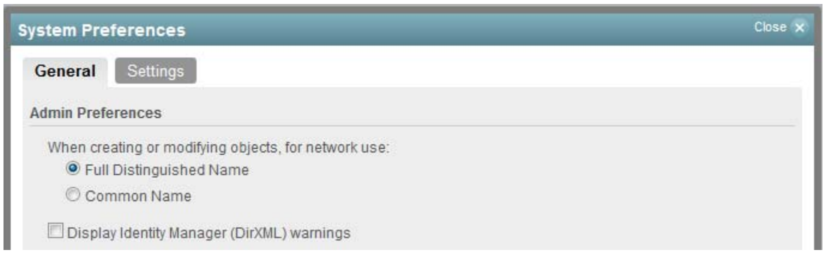
Some GroupWise administrative actions in the GroupWise Admin console require that you stop the GroupWise Identity Manager driver or disable a user's association with it before you perform the action. Most GroupWise administrative actions in the GroupWise Admin console require that you manually restart the GroupWise Identity Manager driver or re-enable the user's association when you have completed the action, but a few do not. By default, these activities generate a warning message in the GroupWise Admin console:

- "Enabling Identity Manager Warnings" on page 39
- "Associating a GroupWise Object with an eDirectory Object" on page 40
- "Disassociating a GroupWise Object's Attributes from an eDirectory Object" on page 40
- "Resolving an Invalid Association" on page 40

Enabling Identity Manager Warnings

Identity Manager warnings are disabled by default.

1 In the GroupWise Admin console, click **System > System Preferences**.



2 Select **Display Identity Manager (DirXML) Warnings**, then click OK.

Associating a GroupWise Object with an eDirectory Object

Using the Identity Manager Management role in NetIQ iManager:

1. Stop the GroupWise Identity Manager driver.
2. Establish the association, as described in "Associating GroupWise Users with an LDAP Directory" in the *GroupWise 18 Administration Guide*.
3. Restart the GroupWise Identity Manager driver.

Disassociating a GroupWise Object's Attributes from an eDirectory Object

In NetIQ iManager:

1. Go to the **Identity Manager** tab of the User object, then disable the association with the GroupWise Identity Manager driver.
2. Disassociate the objects, as described in "Dissociating GroupWise Users from an LDAP Directory" in the *GroupWise 18 Administration Guide*.
3. Go to the **Identity Manager** tab of the User object, then enable the association with the GroupWise Identity Manager driver.

Resolving an Invalid Association

In NetIQ iManager:

1. Go to the **Identity Manager** tab of the User object, then disable the association with the GroupWise Identity Manager driver.
2. Dissociate the user the reassociate the user, as described in "Directory Associations" in the *GroupWise 18 Administration Guide*.

8 Micro Focus ZENworks

- "Using ZENworks Configuration Management to Distribute the GroupWise Client" on page 41
- "Using ZENworks Application Virtualization for GroupWise and Messenger" on page 46

Using ZENworks Configuration Management to Distribute the GroupWise Client

ZENworks Configuration Management deploys software as bundles that include all the files and instructions required to successfully install software on users' workstations. You can use the bundles to distribute the GroupWise client to workstations.

IMPORTANT: For background information, or for help completing the ZENworks tasks outlined in the steps below, see the ZENworks Configuration Management 11 SP4 documentation at the Micro Focus ZENworks Documentation website (http://www.novell.com/documentation/zenworks114/).

- "Prerequisites" on page 41
- "Using ZENworks to Distribute the GroupWise Client Software" on page 42

Prerequisites

Before creating a bundle for the GroupWise client software in Micro Focus ZENworks, you must have the following:

- [ ] A copy of the following GroupWise client software on the machine where you are creating the ZENworks Bundle:
  - `extract_setupip_packs.cmd`
  - `setupip.fil`
  - `setupip.`*`xx`* (where *xx* is a two-letter language code)

  The GroupWise client software can be found on the GroupWise server in the following location:

Linux:	`/opt/novell/groupwise/agents/data/client/setup/win32`
Windows:	`c:\Program Files\Novell\GroupWise Server\agents\data\client\setup\win32`

  You can also extract the GroupWise Server installation files on your workstation if you don't have access to the GroupWise server. To do this, follow the steps in Extracting the GroupWise Software in the *GroupWise 18 Administration Guide*.
- [ ] A GroupWise MST file to customize the GroupWise install. For information on creating an MST file, see Using GroupWise Client Custom Installation Options in the *GroupWise 18 Administration Guide*.

  IMPORTANT: If you want a shortcut created on the desktop for GroupWise, make sure that is selected in the MST file.

❒ (Optional) A copy of the GroupWise icon which can be found on your GroupWise server in the following location:

`\groupwise_software_path\client\win32\groupwise18.ico`

Using ZENworks to Distribute the GroupWise Client Software

There are two bundles you can create to distribute the GroupWise client software. The first assumes that GroupWise is not installed on the target machines. The second lets the user know that GroupWise is being installed and prompts them to close it if it is open.

- "Creating a Bundle to Install the GroupWise Client" on page 42
- "Creating a Bundle to Install/Upgrade the GroupWise Client" on page 44

Creating a Bundle to Install the GroupWise Client

Use this bundle if your workstations do not have the GroupWise client installed.

1 In the ZENworks Control Center, on the Bundles tab, create a new Windows Empty Bundle with the following:

- Upload the GroupWise icon as the icon for the bundle. The icon can be found on the GroupWise server in the following location:

  `\groupwise_software_path\client\win32\groupwise18.ico`
- Select **Create as Sandbox** and make sure **Define Additional Properties** is selected when you finish the bundle.

2 Create the following actions on the Install tab of the bundle:

2a An **Install Files** action called `Install GroupWise Installation Files` that does the following:

- Add the following three files:
  - `extract_setupip_packs.cmd`
  - `setupip.fil`
  - `setupip.xx` (where *xx* is a two-letter language code)
- Select **Do not compress or encrypt uploaded content** if it is available.
- Set the **Destination Directory** to a temporary location on the machine where all of the GroupWise install actions can be performed. For example:

  `C:\Windows\Temp\gwclient\`
- Under **Executable security level**, select **Run as secure system user (Don't allow system to interact with desktop).**

2b A **Run Script** action called `Run extract_setupip_packs.cmd` that does the following:

- In the **Specify a file on the managed device** field, specify the path to the `extract_setupip_packs.cmd` file which was placed on the device in Step 2a. For example:

  `C:\Windows\Temp\gwclient\extract_setupip_packs.cmd`
- In the **Wait before proceeding to next action** box, select **When action is complete**.
- On the Advanced tab, make sure **Run as dynamic administrator** or **Run as secure system user** is selected.

NOTE: When this step runs on the device, a `win32` folder is created in the temporary folder where the GroupWise client install files were placed previously. You need to know the path to this folder for the following steps.

2c An **Install File(s)** action called `Install groupwise.mst` that does the following:

- Add the `groupwise.mst` file.
- Select **Do not compress or encrypt uploaded content** if it is available.
- Set the **Destination Directory** to be the path to the `win32` folder that gets created by the script in Step 2b. For example:

  ```
  C:\Windows\Temp\gwclient\win32
  ```

- Under **Executable security level**, select **Run as secure system user (Don't allow system to interact with desktop).**

2d A **Run Script** action called `Run install.bat` that does the following:

- Select **Define your own script**.
- Edit the script content and specify the following:

  ```
  SET GW_INST_REMOVE_MSI=True
  SET GW_INST_TRANSFORM_FILE=groupwise.mst
  C:\Windows\Temp\gwclient\win32\install.bat /silent
  ```

  The install.bat can take one of the two following parameters:

Parameter	Description
/unattended	Users see a window showing that GroupWise is being installed, but do not have to interact with the install.
/silent	Users do not see that GroupWise is being installed.

- In **Wait before proceeding to next action**, select **When action is complete**.
- On the **Advanced** tab under **Executable Security**, select **Run as secure system user (Do not allow system to interact with desktop)**.

2e A **Launch Executable** action called `Launch GroupWise` that does the following:

- For **Command**, specify the following:

  ```
  "C:\Program Files (x86)\Novell\GroupWise\grpwise.exe"
  ```

NOTE: Change this path accordingly if GroupWise was installed to a different location.

2f A **Create/Delete Directory** action called `Delete Temporary Install Files` that does the following:

- For **Action Type**, select **Delete directory.**
- For **Directory Name**, specify `C:\Windows\Temp\gwclient` or the temporary location from Step 2a.
- Under **Executable security level**, select **Run as secure system user (Do not allow system to interact with desktop)**.

3 The bundle is now configured to install the GroupWise client. Assign the bundle to a test workstation to test it and make sure it is working as desired before publishing the bundle.

Creating a Bundle to Install/Upgrade the GroupWise Client

Use this bundle if your workstations have the GroupWise Client installed.

1 In the ZENworks Control Center, on the Bundles tab, create a new Windows Empty Bundle with the following:

- Upload the GroupWise icon as the icon for the bundle. The icon can be found on the GroupWise server in the following location:

  `\`*`groupwise_software_path`*`\client\win32\groupwise18.ico`

- Select **Create as Sandbox** and make sure **Define Additional Properties** is selected when you finish the bundle.

2 Create the following actions on the Install tab of the bundle:

2a A **Prompt User** action called `Prompt User to close GroupWise` that does the following:

- Select the desired values for **User Cancels Allowed** and **Seconds to be Displayed**.
- Define prompts for desired locales.
- Add prompt text similar to the following:

```
GroupWise is ready to be installed/upgraded. Please save any work-in-
progress emails, close all GroupWise windows, and click OK.
```

2b A **Run Script** action called `Check for Running GroupWise` that does the following:

- Select **Define your own script**.
- Edit the script content and add the following:

```
SETLOCAL EnableExtensions
set EXE=grpwise.exe
FOR /F %%x IN ('tasklinst /NH /FI "IMAGENAME eq %EXE%"') DO IF %%x ==
%EXE% goto FOUND
EXIT 0
goto FIN
:FOUND
GroupWiseStillRunning
:FIN
```

- In **Wait before proceeding to the next action**, select **When action is complete**.
- On the **Advanced** tab under **Executable security level**, select **Run as secure system user (Don't allow system to interact with desktop)**.

2c An **Install Files** action called `Install GroupWise Installation Files` that does the following:

- Add the following three files:
  - `extract_setupip_packs.cmd`
  - `setupip.fil`
  - `setupip.`*`xx`* (where *xx* is a two-letter language code)
- Select **Do not compress or encrypt uploaded content** if it is available.
- Set the **Destination Directory** to a temporary location on the machine where all of the GroupWise install actions can be performed. For example:

  `C:\Windows\Temp\gwclient\`

- Under **Executable security level**, select **Run as secure system user (Don't allow system to interact with desktop).**

2d A **Run Script** action called `Run extract_setupip_packs.cmd` that does the following:

- In the **Specify a file on the managed device** field, specify the path to the `extract_setupip_packs.cmd` file which was placed on the device in Step 2c. For example:

  `C:\Windows\Temp\gwclient\extract_setupip_packs.cmd`

- In the **Wait before proceeding to next action** box, select **When action is complete**.
- On the Advanced tab, make sure **Run as dynamic administrator** or **Run as secure system user** is selected.

NOTE: When this step runs on the device, a `win32` folder is created in the temporary folder where the GroupWise client install files were placed previously. You need to know the path to this folder for the following steps.

2e An **Install File(s)** action called `Install groupwise.mst` that does the following:

- Add the `groupwise.mst` file.
- Select **Do not compress or encrypt uploaded content** if it is available.
- Set the **Destination Directory** to be the path to the `win32` folder that gets created by the script in Step 2d. For example:

  `C:\Windows\Temp\gwclient\win32`

- Under **Executable security level**, select **Run as secure system user (Don't allow system to interact with desktop).**

2f Do the following:

- Select the check box next to the `Check for Running GroupWise` **Run Script** action.
- Click **Duplicate** to add another copy of this action.

This is a check to make sure the user hasn't launched GroupWise after the initial prompt.

2g A **File Removal** action called `Delete GroupWise Shortcut` that does the following:

- For **Full Path to Source Files/Directories**, specify the following:

  `${public}\DesktopGroupWise.lnk`

- For **Run Action As**, make sure **System** is selected.

2h (Optional) A **Display Message** action called `Alert User that GroupWise install is finishing` that does the following:

- Define prompts for the desired locales. The message could be similar to the following:

```
GroupWise will finish it's install/upgrade in a few minutes. The
application will launch automatically when finished.
Thank you for your patience!
```

2i A **Run Script** action called `Run install.bat` that does the following:

- Select **Define your own script**.
- Edit the script content and specify the following:

```
SET GW_INST_REMOVE_MSI=True
SET GW_INST_TRANSFORM_FILE=groupwise.mst
C:\Windows\Temp\gwclient\win32\install.bat /silent
```

The install.bat can take one of the two following parameters:

Parameter	Description
/unattended	Users see a window showing that GroupWise is being installed, but do not have to interact with the install.
/silent	Users do not see that GroupWise is being installed.

- In **Wait before proceeding to next action**, select **When action is complete**.
- On the **Advanced** tab under **Executable Security**, select **Run as secure system user (Do not allow system to interact with desktop)**.

2j A **Launch Executable** action called `Launch GroupWise` that does the following:

- For **Command**, specify the following:

```
"C:\Program Files (x86)\Novell\GroupWise\grpwise.exe"
```

NOTE: Change this path accordingly if GroupWise was installed to a different location.

2k A **Create/Delete Directory** action called `Delete Temporary Install Files` that does the following:

- For **Action Type**, select **Delete directory.**
- For **Directory Name**, specify `C:\Windows\Temp\gwclient` or the temporary location from Step 2c.
- Under **Executable security level**, select **Run as secure system user (Do not allow system to interact with desktop)**.

3 The bundle is now configured to install the GroupWise client. Assign the bundle to a test workstation to test it and make sure it is working as desired before publishing the bundle.

Using ZENworks Application Virtualization for GroupWise and Messenger

Micro Focus ZENworks Application Virtualization lets you convert applications that run on Microsoft Windows into self-contained virtual applications. After being virtualized, an application becomes a single, isolated file that runs instantly from anywhere, including a thumb drive or other removable media. Unlike traditional installation methods, the single virtual application file does not require a separate setup process, and does not rely on external components and runtimes, reboots, or administrative privileges. After virtualization, the application is isolated from other system applications, preventing DLL conflicts and other deployment nightmares, yet the experience for the application's user is unchanged.

For instructions on virtualizing the GroupWise client, see "Preparing GroupWise and GroupWise Notify for Virtualization" in the *ZENworks Integration and Streaming Guide* (http://www.novell.com/documentation/zav90/).

For instructions on virtualizing the Messenger client, see "Preparing Novell Messenger for Virtualization" in the *ZENworks Integration and Streaming Guide* (http://www.novell.com/documentation/zav90/).

9 Mobile Devices

The GroupWise Mobility Service provides data synchronization between GroupWise mailboxes and mobile devices for synchronizing email, appointments, contacts, tasks, notes, and phone messages. The GroupWise Mobility Service is fast, reliable and scalable, and supports the latest device operating systems. For more information, see the GroupWise Mobility 18 Documentation website.

To support BlackBerry devices with an operating system earlier than BlackBerry 10.x, use BlackBerry Enterprise Server for GroupWise.

10 GroupWise TeamWorks

GroupWise TeamWorks helps you easily collaborate via your web browser, mobile device, or the GroupWise client. With TeamWorks, you can discuss ideas, post files, share links, and invite others to join the conversation in virtual discussion rooms.

GroupWise is the desktop client for TeamWorks. Your TeamWorks server information is added to the GroupWise Admin Console by your administrator. Once that's done you can login to TeamWorks while in GroupWise and see the TeamWorks folders in the folder list. From within a room you can read, add new content, or edit content created by you.

Enabling GroupWise for Use with TeamWorks

To enable the TeamWorks integration:

- ❒ In the GroupWise Admin console, select the **Domain**, **Post Office**, or user where you want the TeamWorks integration enabled.
- ❒ Go to **Client Options > Integrations > TeamWorks** and select **Enable Micro Focus TeamWorks**.
- ❒ Specify the TeamWorks URL and port number in the following format:

  ```
  https://<teamworks_server>:<port>
  ```

Users are now able to login to TeamWorks in the GroupWise Client

Using TeamWorks in the GroupWise Client

Once your administrator has configured TeamWorks in the GroupWise Admin Console, you can use it to collaborate with your teams and groups.

IMPORTANT: In this release of GroupWise, you cannot create TeamWorks Rooms or Topics in the GroupWise client. They must be created in TeamWorks first before you can use them in the GroupWise Client.

You can create a comment to a topic by opening it in the room list and typing in the Reply box at the bottom of the Topic. Comments and topics that you have created can be edited or deleted.